



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,223	04/23/2001	Jan Topholm	Q64069	4742

7590 09/25/2003
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, DC 20037-3213

EXAMINER

ENSEY, BRIAN

ART UNIT	PAPER NUMBER
----------	--------------

2643

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,223

Applicant(s)

TOPHOLM, JAN

Examiner

Brian Ensey

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 17-38 and 41 is/are rejected.
- 7) ☒ Claim(s) 39 and 40 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6,7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 17-41 in Paper No. 9 is acknowledged.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "89" has been used to designate both the upright annular edge and the protruding resilient lugs in Fig. 19. Reference character "88" has been used to designate both the projection in Figs. 23 and 24 and the partial cylindrical wall in Fig. 19. Reference character "72" has been used to designate both the battery terminal in Fig. 19 and the face plate in Fig. 21. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: See Figs. 8 and 10, item 26; See Fig. 11, item 34a; See Fig. 13, item 56; See Figs. 14 and 15, items 54a and 55; See Fig. 19, item 72; See Fig. 20, items 72 and 72'; See Fig 23, item 75. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Schmitt et al., U.S. Patent No. 5,889,874.

Regarding claim 21, Schmitt discloses a hearing aid (1) for insertion into the auditory canal, comprising a hearing aid housing (2) with an integrated face plate (3) having an engaging means for receiving and holding a hearing aid component (4,6,7), and a shell that is matched to the auditory canal of a user (See Figs. 2 and 3 and col. 2, lines 30-63).

4. Claims 17, 19, 20 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Voroba et al., U.S. Patent No. 4,870,688.

Regarding claim 17, Varoba discloses a hearing aid (10) for insertion in the auditory canal, comprising a hearing aid housing with a face plate (99) comprising positioning means (110,112,114,116) for engaging with corresponding positioning means of the shell (50,52) so that the circumference of the face plate matches the junction contour of the shell when the face plate positioning means engages with the shell positioning means (See Fig. 1 and col. 9, lines 29-54).

Regarding claims 19 and 20, Voroba further discloses the face plate positioning means comprises at least one face plate protrusion at the inner surface of the face plate terminating at the circumference of the face (110) at a distance from the circumference that is substantially

Art Unit: 2643

equal to the thickness of the shell at the junction contour, and wherein the shell positioning means comprise the shell at the junction contour and the protrusions at the junction contour extend inwardly towards the interior of the shell (52) for reception and holding corresponding face plate protrusions (See Fig. 1 and col. 9, lines 29-54).

Regarding claim 26, Voroba further discloses the shell has an integrated ventilation channel (130,132) (See Fig. 4 and col. 10, line 65 to col. 11, line 11)

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 17 and 22-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Olsen, U.S. Patent No. 6,430,296.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding claim 17, Olsen discloses a hearing aid for insertion in the auditory canal, comprising a hearing aid housing with a faceplate comprising positioning means for engaging with corresponding positioning means of the shell so that the circumference of the face plate matches the junction contour of the shell when the face plate positioning means engages with the shell positioning means (See Fig. 1). Further, it is inherent that the face plate of any hearing aid be positioned so that the circumference of the face plate matches the contour of the shell when the face plate and shell are engaged.

Regarding claim 22, Olsen further discloses an electronic module (4) with a socket (11), at least one microphone (5), a signal processor (6), and a receiver (7), and wherein the hearing aid housing is adapted to enclose the electronic module, the faceplate has a battery opening defined therein for a passage of a battery and the electronic module, the socket constitutes the hearing aid component (See Fig. 1 and col. 2, lines 10-20).

Regarding claim 23, Olsen further discloses the engaging means comprises grooves, tracks and/or notches for engagement with co-operating socket engaging means formed on the socket (See Figs. 2-5 and col. 3, lines 23-36).

Regarding claim 24, Olsen further discloses the socket engaging means comprises elastically resilient lugs (See Figs. 2-5 and col. 3, lines 37-54).

Regarding claim 25, Olsen further discloses the lugs are integrated with battery terminals projecting from the socket (See Fig. 2 and col. 5, lines 17-24).

Art Unit: 2643

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba as applied to claim 17 above, and further in view of Juneau et al., U.S. Patent No. 6,228,020.

Regarding claim 18, Voroba discloses a hearing aid as claimed. Voroba further discloses the face plate positioning means comprise at least one face plate protrusion (110,112,114,116) at the inner surface of the face plate, wherein the shell positioning means comprise indentations (50,52) that are adapted to receive and match the at least one face plate protrusion (See Fig. 1 and col. 9, lines 29-54). Voroba does not expressly disclose the step of cutting the face plate along the junction contour so that it matches the junction contour when the at least one face plate protrusion is received by the mating indentations of the shell whereby correct assembly of the face plate and the shell is facilitated. However, it is well-known in the art to trim the face plate to match the shell and Juneau teaches trimming the faceplate to match the contour of the shell when the pieces are placed in their proper orientation (See Fig. 13 and col. 7, lines 43-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to trim the face plate along the junction contour so that it matches the junction contour when the at least one face plate protrusion is received by the mating indentations of the shell whereby correct assembly of the face plate and the shell is facilitated for a pleasing appearance and a comfortable fit into the ear of the user.

Art Unit: 2643

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vorba as applied to claim 17 above, and further in view of Nessler, U.S. Patent No. 4,879,750.

Regarding claim 28, Vorba discloses a hearing aid as claimed. Vorba does not expressly disclose the shell has a shell ventilation channel opening that is adapted to receive and hold an ear wax guard. However, Nessler teaches the shell has a shell ventilation channel opening that is adapted to receive and hold an ear wax guard (See Figs. 10 and 11 and col.3, lines 7-10 and col. 4, lines 10-25).

10. Claims 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vorba as applied to claim 17 above, and further in view of Yoest, U.S. Patent No. 5,970,157.

Regarding claims 27 and 29, Vorba discloses a hearing aid as claimed. Vorba does not expressly disclose the shell has an acoustic output opening that is adapted to receive and hold an ear wax guard with a pipe stub in the shell centered around the opening and extending inwardly in the shell and forming a bushing for insertion of the ear wax guard. However, the use of wax guards are well known in the art and Yoest teaches an acoustic output opening (18,20) that is adapted to receive and hold an ear wax guard (24) with a pipe stub (22) in the shell centered around the opening and extending inwardly in the shell and forming a bushing for insertion of the ear wax guard (See Fig. 3 and col. 4, lines 1-32). It would have been obvious to one of ordinary skill in the art at the time of the invention to include an ear wax guard to prevent contamination of the output duct and attenuation of the output signal.

11. Claims 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vorba as applied to claim 17 above, and further in view of Berger, U.S. Patent No. 6,164,409.

Regarding claims 27 and 30, Voroba discloses a hearing aid as claimed. Voroba does not expressly disclose the shell has an acoustic output opening that is adapted to receive and hold an ear wax guard with a recess in the shell covering an area around the opening and matching a collar of the ear wax guard or matching a collar of a bushing to be inserted in the opening for reception and holding of the ear wax guard. However, the use of wax guards are well known in the art and Berger teaches an acoustic output opening (42) that is adapted to receive and hold an ear wax guard (40) with a recess in the shell (34) covering an area around the opening and matching a collar of the ear wax guard (38) or matching a collar of a bushing to be inserted in the opening for reception and holding of the ear wax guard. It would have been obvious to one of ordinary skill in the art at the time of the invention to include an ear wax guard to prevent contamination of the output duct and attenuation of the output signal.

12. Claims 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba as applied to claim 17 above, and further in view of Yoest, U.S. Patent No. 6,167,141.

Regarding claim 31, Voroba discloses a hearing aid as claimed. Voroba does not expressly disclose a tightening protrusion that extends along the surface of the shell providing a tight seal against the auditory canal wall when the shell is inserted in the auditory canal. However, Yoest teaches a tightening protrusion (68a) that extends along the surface of the shell providing a tight seal against the auditory canal wall when the shell is inserted in the auditory canal (See Fig. 3 and col. 4, line 41 to col. 5, line 52). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a tightening protrusion for a comfortable acoustic seal in the ear canal.

Regarding claim 32, Voroba does not expressly disclose the tightening protrusion is made of the same material as the shell, and wherein the outer dimensions of the shell are increased to form the tightening protrusion. However, Yoest teaches the tightening protrusion may be formed from any compliant material (See col. 5, lines 48-52). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a tightening protrusion of the same material as the shell to easily and cheaply form a comfortable acoustic seal in the ear canal.

Regarding claim 33, Voroba discloses a hearing aid as claimed. Voroba does not expressly disclose a groove extending along the surface of the shell and encircling the shell having a cross-section with a shape and dimensions that match a desired tightening ring to be mounted in the produced shell and constituting a tightening protrusion. However, Yoest teaches a groove (56c) extending along the surface of the shell and encircling the shell having a cross-section with a shape and dimensions that match a desired tightening ring (68a) to be mounted in the produced shell and constituting a tightening protrusion (See Fig. 3 and col. 4, line 41 to col. 5, line 52). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a tightening ring for a comfortable acoustic seal in the ear canal.

Regarding claim 34, Voroba discloses a hearing aid as claimed. Voroba does not expressly disclose a groove extending along the surface of the shell for deposition of a material different from the material of the shell in the groove, the deposited material constituting a tightening protrusion. However, Yoest teaches a groove (56c) extending along the surface of the shell for deposition of a material different from the material of the shell in the groove, the deposited material constituting a tightening protrusion (See Fig. 3 and col. 4, line 41 to col. 5,

Art Unit: 2643

line 52). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a tightening ring for a comfortable acoustic seal in the ear canal.

Regarding claim 35, Voroba does not expressly disclose the position of the tightening protrusion corresponds to the position in the auditory canal at which the dynamic variations of the dimensions of the auditory canal exhibit the least variations caused by user activity.

However, Yoeast teaches the end of the shell is located near the ear drum and the tightening protrusion would be effective in sealing the user's auditory canal (See col. 5, lines 21-32). It would have been obvious to one of ordinary skill in the art at the time of the invention to position the protrusion at the position of least distortion of the auditory canal to maintain the most effective seal possible.

13. Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba as applied to claim 17 above, and further in view of Gore et al., U.S. Patent No. 4,620,605.

Regarding claim 36, Voroba disclose a hearing aid as claimed. Voroba does not expressly disclose the shell is produced with means for vibration absorbing suspension of the receiver. However, the use of vibration absorption suspensions is well known in the art and Gore teaches the shell is produced with means for vibration absorbing suspension of the receiver (See Fig. 4 and abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a suspension for receiver mounting a vibration absorption for a clearer sound signal to be supplied to the user.

Regarding claims 37 and 38, Voroba disclose a hearing aid as claimed. Voroba does not expressly disclose the means for vibration absorbing suspension of the receiver comprises a chamber or shell protrusions for receiving and holding the receiver, and at least one resilient

Art Unit: 2643

band fixed around the receiver and the at least one resilient band has at least one protrusion for supporting and suspending the receiver in the chamber. However, the use of vibration absorption suspensions is well known in the art and Gore teaches a chamber (Fig. 4) for receiving and holding the receiver, and at least one resilient band (50) fixed around the receiver and the at least one resilient band has at least one protrusion (54) for supporting and suspending the receiver in the chamber. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a suspension for receiver mounting a vibration absorption for a clearer sound signal to be supplied to the user.

14. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba as applied to claim 17 above, and further in view of Widmer et al., U.S. Patent No. 6,540,045.

Regarding claim 41, Voroba discloses a hearing aid as claimed. Voroba does not expressly disclose an inherent identification of the produced hearing aid housing. However, Widmer teaches an inherent identification of the produced hearing aid housing (See col. 14, lines 30-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a unique identification of the hearing aid housing to easily maintain accountability between each unique device and its user.

Allowable Subject Matter

15. Claims 39 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2643

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 703-305-7363. The examiner can normally be reached on Mon-Fri: 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9314, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

BKE
September 8, 2003


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600